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Remarks

Claims 26 – 48 are pending and stand rejected.

The specification was amended on page 3, line 8, in the second paragraph to correct the term "water soluble" and properly cite "water insoluble", which is consistent with the description of "hydrophobic" on page 3, line 8

Claim 47 has been amended.

CLAIM OBJECTIONS

Applicant previously had two claims numbered "46". The Examiner has renumbered the claims in proper order. The claims with proper numbering appear above.

Claim 47 was objected to due to the inclusion of the cite "(new)". Said citation has been deleted.

35 U.S.C. §112

Claims 26-48 stand rejected under 35 U.S.C. §12, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Examiner objected to use of the term "compound", and suggested instead the use of the term "composition". Applicant agrees that composition is also a good term to describe the compound of the present invention, yet fails to find antecedent basis for the use of "composition". The substitution of the term "material" could also be done, as supported by original disclosure on page 3, line 9. However, "compound" as defined in Webster's Ninth New Collegiate Dictionary means "composed of or resulting from union of separate elements, ingredients, or parts." The term hydrophobic compound is defined by Applicant on page 3, lines 8 – 18. As exemplified in the listed compounds, the majority fit the Examiner's definition as a single species "composed of atoms or ions of two or more elements in chemical combination". The only difference appears to be that Applicant describes a compound as being one or more compounds (page 3, line 8). The claim, as presently stated, covers the most basic instance where only one compound is present, as well as the other embodiments of more than one compound.

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Claim 48 was rendered vague and Indefinite as being unclear which claim 46 it refers to. With the Examiner's correction of the numbering of the second claim 46, claim 48 is now clear.

35 U.S.C. §103Eskin et al in view of Macaulay

Claims 26-28, 39-42, and 46-48 stand rejected under 35 U.S.C. §103 as being unpatentable over Eskins et al., U.S. Patent Number 5,676,994 in view of Macaulay, U.S. Patent Number 6,636,146. The Eskins patent teaches a non-separable starch-oil composition useful for food, agriculture, or pharmaceutical and cosmetic carriers or vehicles. The Eskins reference describes several examples of such formulations, including hand and body lotions and creams, sun tan lotions, vitamins, antibiotics, etc. The Eskins reference fails to recognize the advantage the compositions have for reducing irritation due to hydrophobic substances known to be irritating to the skin, such as sunscreen actives described by Applicant on page 5, lines 11-15. As described, while not being bound to any theory, it is believed that the rate of skin adsorption is reduced, reducing the level of irritation. The Eskins reference fails to recognize the surprising advantage found by Applicant for using the Eskin technology to encapsulate known irritants, such as sun screen actives. The examples given in the Eskin reference involve substances that are effective only on penetration of the skin. Applicant's have found that known irritants, which are effective without skin penetration, and which could be irritants if skin penetration occurs, can have a reduced level of skin penetration and irritation by starch encapsulation as described. One of skill in the art would recognize that the sun tan lotions described by the Eskin reference are meant to penetrate into the skin in order to be effective, while the sun-screen actives claimed by Applicant are meant to remain on the skin surface. One of skill in the art would not be motivated by a teaching of skin-penetrating personal care products to practice Applicant's claimed sun screen active composition.

The Macaulay reference teaches sunscreens that are encapsulated in waxes and oils. Applicant has found that sunscreen actives encapsulated in starch as claimed do not feel greasy or oily, and do not have visible residues. The starch encapsulate provides a smooth after-feel, with a soft or silky feel. (page 5, lines 16-19). While the Macaulay reference teaches that sun-screen actives, which are known irritants, can be encapsulated in wax, which gives an oily feel and leaves a residue, Applicants have

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found that the sun-screen actives can be starch encapsulated to form a stable, aqueous formulation. One in the art would not be motivated by encapsulation in wax, which leaves a residue, to practice Applicant's claim of starch encapsulation. The Eskins' reference, in combination with the Macauley reference fail to teach or suggest all of Applicants claim limitations, therefore, fail to present a *prima facie* case of obviousness.

Eskins, Macauley in view of Ashley

Claims 29-31 and 43-45 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Eskins and Macauley and further in view of Ashley ("Sunburn and Sunscreen Preparations", Poucher's Perfumes, Cosmetics, and Soaps. As discussed above, the Eskins and Macauley references, alone or in combination, fail to teach or suggest all of Applicant's claim limitations. The Ashley reference is cited as a secondary reference to teach the water content in cosmetic compositions. The reference describes oil/water and water/oil emulsions in the form of creams and lotions. These compositions require emulsifiers or surfactants for particle stability. Personal care formulations of the present invention do not require the surfactants that can result in irritation and allergic reactions (page 5, lines 6-10). There is no teaching or suggestion in the Ashley reference to any starch encapsulation of a sunscreen active, and thus the Ashley reference fails to heal the defects in the Eskins and Macauley reference to teach or suggest all of Applicants claim limitations.

Eskins, Van Soest, Fletcher

Claims 32-38 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Eskins in view of Van Soest, U.S. Patent Number 6,340,527 and Fletcher et al, U.S. Patent Number 6,261,543.

The Eskins reference teaches starch encapsulated materials similar to those claimed by Applicant. The Eskins reference fails to teach or suggest the use of a cationic starch. As described by Applicant on page 5, line 29 to page 6 line 3, "Hydrophobic compounds encapsulated with a cationically modified starch advantageously adhere to anionic substrates such as hair and skin. This increases the amount of contact between the hydrophobic compound and skin or hair, which aids in rinse-off and rub-off protection."

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The Van Soest reference describes microparticles that contain an active ingredient in a starch shell. The starch can be any starch, including a cationic starch (col. 2, lin 5). The starch particles can be used in cosmetic applications. While cationic starches are listed in a laundry list of possible starches, there is no recognition that a cationic starch is a result-effective variable, and therefore such variable cannot be optimized by routine experimentation. There is also no motivation to use the emulsion method described in the Van Soest reference to produce starch-encapsulated hydrophobic compounds that are non-separable in a personal care or cosmetic aqueous formulation. Indeed, the Van Soest reference is focused on forming particles, while the Eskins reference demonstrates that starch-encapsulated particles formed by the emulsion process of the Van Soest reference do not form stable, aqueous formulation. There is no motivation to combine these references, and specifically choose a cationic starch, due to its inherent attraction to skin and hair, as recognized by Applicant.

The Fletcher reference is a secondary reference cited to show the use of a cationically-modified starch in an anti-perspirant. The Fletcher reference does not disclose an aqueous formulation. The Fletcher reference fails to disclose a starch-encapsulated hydrophobic compound, or a stable aqueous personal care or cosmetic formulation, and therefore fails to correct the deficiencies of the other cited references.

Eskins, Van Soest, Ashley

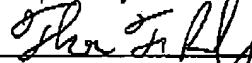
Claims 36-38 stand rejected over Eskins and Van Soest in view of Ashley. The Ashley reference is cited as a secondary reference to teach the water content in cosmetic compositions. The reference describes oil/water and water/oil emulsions in the form of creams and lotions. These compositions require emulsifiers or surfactants for particle stability. Personal care formulations of the present invention do not require the surfactants that can result in irritation and allergic reactions (page 5, lines 6-10). There is no teaching or suggestion in the Ashley reference to any starch encapsulation of a sunscreen active, and thus the Ashley reference fails to heal the defects in the Eskins and Van Soest references to teach or suggest all of Applicants claim limitations.

Applicant respectfully submits that the foregoing is a complete response to the Office Action, and

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requests th Examiner to remove all rejections and pass the application to issuance at this time.

Respectfully submitted,



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